

WHAT IS CLAIMED IS:

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1. An apparatus for reducing a noise component contained in an input signal, comprising:

a detecting device for detecting a level of said noise component;

an adjusting device for adjusting a level of said input signal so as to make said level of said noise component equal to or lower than a predetermined threshold level;

a reducing device for reducing a signal component of said adjusted input signal whose level is equal to and lower than said predetermined threshold level; and

a restoring device for restoring a level of said adjusted input signal to said level of said input signal that has not been adjusted by said adjusting device yet.

2. An apparatus according to Claim 1, wherein said detecting device comprises:

an extracting device for extracting a high frequency component of said input signal from said input signal;

a rectifying device for rectifying said extracted high frequency component;

an envelope generating device for generating an envelope signal of said extracted high frequency component; and

a level analyzing device for detecting a lowest level of said envelope signal.

3. An apparatus according to Claim 1, wherein said detecting device comprises:

a sound existing part detecting device for detecting a sound existing part of said input signal; and

a noise level detecting device for detecting said level of said noise component which is contained in said sound existing part.

4. An apparatus according to Claim 1, wherein said adjusting device comprises:

a determining device for determining whether or not said level of said noise component is higher than said predetermined threshold level; and

a level adjusting device for adjusting said level of said input signal so as to make said level of said noise component equal to or lower than said predetermined threshold level if said determining device determines that said level of said noise component is higher than said predetermined threshold level.

5. An apparatus according to Claim 1, wherein said reducing device comprises:

a dividing device for dividing said adjusted input signal into a plurality of divisional components whose frequency bands are different from each other;

a plurality of signal level detecting devices, each of which detects a level of one of said divisional components;

a plurality of attenuating devices, each of which attenuates one of said divisional components on the basis of said detected level of said corresponding divisional component;

a mixing device for mixing all of said attenuated divisional components.

6. An apparatus according to Claim 1, wherein said adjusting device comprises an attenuator, and said restoring device comprises an amplifier.

7. An apparatus according to Claim 6, wherein said amplifier amplifies said adjusted input signal by using an inverse number of an attenuation factor of said attenuator as an amplification factor.

8. A method of reducing a noise component contained in an input signal, comprising the processes of:

detecting a level of said noise component;

adjusting a level of said input signal so as to make said level of said noise component equal to or lower than a predetermined threshold level;

reducing a signal component of said adjusted input signal whose level is equal to and lower than said predetermined threshold level; and

restoring a level of said adjusted input signal to said level of said input signal that has not been adjusted in said adjusting process yet.

9. A method according to Claim 8, wherein said detecting process comprises the processes of:

extracting a high frequency component of said input signal from said input signal;

rectifying said extracted high frequency component;

generating an envelope signal of said extracted high frequency component; and

detecting a lowest level of said envelope signal.

10. A method according to Claim 8, wherein said detecting process comprises the processes of:

detecting a sound existing part of said input signal; and

detecting said level of said noise component which is contained in said sound existing part.

11. A method according to Claim 8, wherein said adjusting process comprises the processes of:

determining whether or not said level of said noise component is higher than said predetermined threshold level; and

adjusting a level of said input signal so as to make said level of said noise component equal to or lower than said predetermined threshold level if it is determined in said determining process that said level of said noise component is higher than said predetermined threshold level.

12. A method according to Claim 8, wherein said reducing process comprises the processes of:

dividing said adjusted input signal into a plurality of divisional components whose frequency bands are different from each other;

detecting a level of each of said divisional components;

attenuating each of said divisional components on the basis of said detected level of said corresponding divisional component;

mixing all of said attenuated divisional components.